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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/559,921  | 12/08/2005  | Yang Ju              | SHIG CFP03US013     | 9545             |
| 27667   | 7590        | 11/06/2006           | EXAMINER            |                  |
| HAYES, SOLOWAY P.C.<br>3450 E. SUNRISE DRIVE, SUITE 140<br>TUCSON, AZ 85718 |             |                      | BENSON, WALTER      |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2858                |                  |

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                               |                          |  |
|------------------------------|-------------------------------|--------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/559,921 | Applicant(s)<br>JU, YANG |  |
|                              | Examiner<br>Walter Benson     | Art Unit<br>2858         |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)            | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### **FINAL ACTION**

1. Amendment A, received on 8/25/2006, has been entered into record. In this amendment, claim 5 has been added.
2. Claims 1-5 are now pending.

### ***Drawings***

3. The drawings are objected to because item 180 added in Figure 1 requires a suitable descriptive legend. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Information Disclosure Statement***

4. The information disclosure statement filed 9/18/2006 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement such as PTO 1449. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

### ***Claim Objections***

5. Claims 1 and 5 objected to because of the following informalities: Claims 1 and 5 are duplicate claims with the exception of "conductivity" and "in combination" in the claim 5 preamble.

Appropriate correction is required.

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6. The text of those sections of Title 35, U.S. Code not included in this office action can be found in the prior office action.

***Claim Rejections - 35 USC § 103***

7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boda et al. (US Patent No. 5,406,214 and Boda hereinafter) in view of Bakhtiari et al. (US Patent No. 5,886,534 and Bakhtiari hereafter).

8. As to claims 1 and 5, Boda discloses a measuring instrument for noncontact measuring of conductivity of a silicon wafer using a microwave, the measuring instrument comprising:

an oscillator for oscillating of the microwave (col. 6, lines 10-14);

a circulator connected to the oscillator (col. 6, lines 14-17);

an antenna connected to the circulator [34, 38, Fig. 2], the antenna transmitting the microwave to the silicon wafer and receiving a reflected wave from a surface of the silicon wafer (col. 6, lines 35-39);

a detector connected to the circulator [34, 48, Fig. 2], the detector outputting a voltage [col. 6, lines 42-44] proportional to a square of magnitude of the reflected wave (col. 8, lines 1-4);

a computer for computing conductivity of the silicon wafer from the voltage (col. 6, lines 42-47. col. 6, lines 66-68 and col. 10, lines 62-68).

Boda did not expressly disclose:

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a horn antenna [claims 1, 5].

where a frequency of the microwave oscillating in said oscillator is 94 GHz. [claims 3, 4]

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Bode, as evidenced by Bakhtiari.

Bakhtiari discloses a millimeter wave sensor for on-line inspection of thin sheet dielectrics having:

a horn antenna [claim 1] (Fig. 2B; col. 5, lines 8-10).

where a frequency of the microwave oscillating in said oscillator is 94 GHz. [claims 3, 4] (col. 4, lines 9-11)

Given the teaching of Bakhtiari, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Boda by employing the well known or conventional features of microwave sensing, such as disclosed by Bakhtiari, in order to efficiently measure wafer specimens in the Boda apparatus.

9. As to claim 2, Boda discloses a non-contact conductivity measuring instrument using a microwave, the non-contact conductivity measuring instrument characterized by including:

that the circulator is in contact with the oscillator through an isolator (26, 32, 34, Fig. 2; col. 6, lines 39-41).

*Response to Arguments*

10. Applicant's arguments filed 8/25/2006 have been fully considered but they are not persuasive.

11. In the remarks, applicant argued in substance that:

(1) Neither Bakhtiari et al. nor Boda et al. disclose an instrument that computes conductivity of a silicon wafer from a voltage.

12. Examiner respectfully traverses applicant's remarks:

As to point (1), see paragraphs above, Applicant has failed to consider the teaching of Boda in view of Bakhtiari as a whole where Boda shows a computer for computing conductivity of the silicon wafer from the voltage (col. 6, lines 42-47; col. 6, lines 66-68 and col. 10, lines 62-68).

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter Benson whose telephone number is (571) 272-2227. The examiner can normally be reached on Mon to Fri 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Walter Benson  
Primary Examiner

October 27 2006